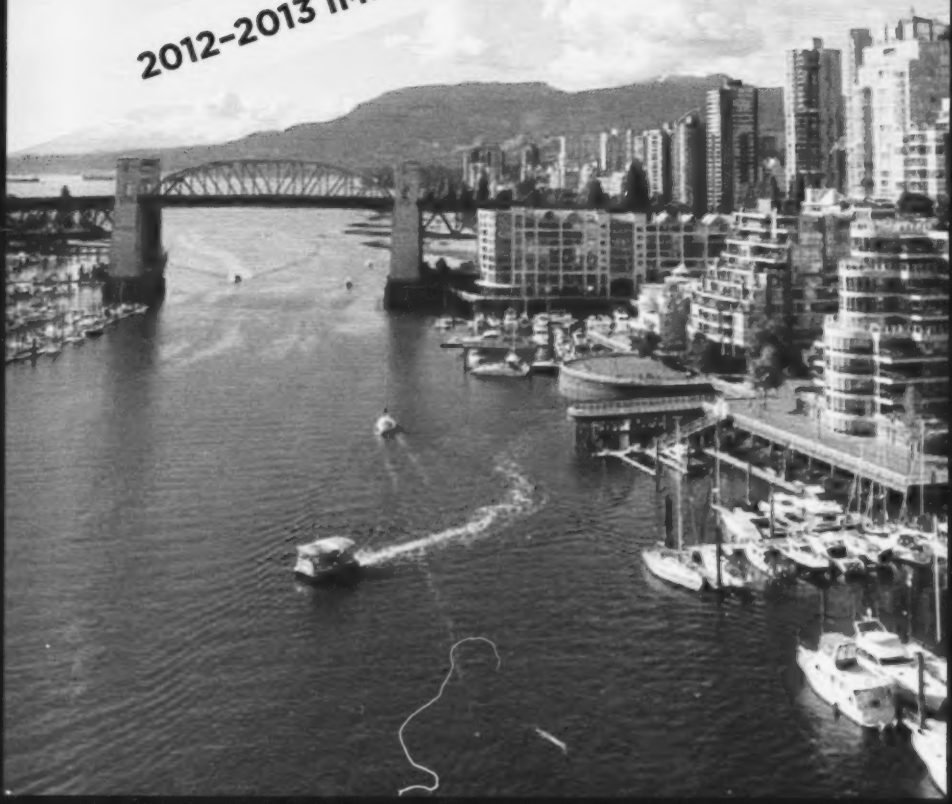
CITY OF VANCOUVER

GREENEST CITY

2020 ACTION PLAN

2012–2013 IMPLEMENTATION UPDATE



2012-2013 HIGHLIGHTS

OUR PROGRESS

GREENEST CITY AWARDS

2013 World Wildlife Fund Earth Hour City Challenge: Global Earth Hour Capital

2013 World Wildlife Fund Earth Hour City Challenge: People's Choice

2013 Mediacorp Canada Inc's: Canada's Top 55 Greenest Employers

2012 Guangzhou International Award: for Urban Innovation

2013 Corporate Knights North American Sustainable Cities Scorecard: Top 5

This update is organized according to the ten goals of the *Greenest City 2020 Action Plan*, which can be found at: **vancouver.ca/GreenestCityActionPlan**

OVERVIEW

In 2011, Vancouver adopted the ambitious goal of becoming the greenest city in the world by 2020.

The *Greenest City 2020 Action Plan* (GCAP) is a wide-ranging effort to prepare the city for population growth and the effects of climate change, while also building a vibrant green economy and enriching residents' quality of life.

Today, hundreds of projects are underway to make the places where Vancouverites live, work, and play more environmentally sustainable.

Led by residents, businesses, community groups, and the City, these projects are greening the energy, transportation, buildings, waste, water, and food systems. Projects are prioritized when they help to achieve multiple goals, including supporting vulnerable populations, and creating a vibrant green economy. In fact, achieving these goals and demonstrating that people and economies can thrive in balance with nature is the only sustainable option.

"It's up to everyone to do their part, to rethink, re-evaluate and re-imagine the way Vancouver works and how we lead our lives." *From 2020: A Bright Green Future*

DASH-BOARD

GOAL AND TARGETS	INDICATOR	BASELINE	2012	% CHANGE	IMPROVED OVER BASELINE	2020 TARGET
GREEN ECONOMY						
Target 1: Double the number of green jobs over 2010 levels by 2020.	Total number of green jobs	14, 900 jobs (2010)	--	--	--	30,000 jobs
Target 2: Double the number of companies that are actively engaged in greening their operations over 2011 levels, by 2020.	Per cent of businesses engaged in greening their operations	7% of businesses engaged (2011)	New survey to be conducted late 2013	--	--	15% of businesses engaged
CLIMATE LEADERSHIP						
Target: Reduce community based greenhouse gas emissions by 33% from 2007 levels.	Total tonnes of community CO_2e emissions from Vancouver	2,750,000 tCO_2e (2007)	2,657,000 tCO_2e	4%	Yes	1,846,000 tCO_2e
GREEN BUILDINGS						
Target 1: Require all buildings constructed from 2020 onward to be carbon neutral in operations.	Total tonnes of CO_2e from residential and commercial buildings	1,145,000 tCO_2e (2007)	1,115,000 tCO_2e	3%	Yes	920,000 tCO_2e
Target 2: Reduce energy use and GHG emissions in existing buildings by 20% over 2007 levels.						
GREEN TRANSPORTATION						
Target 1: Make the majority of trips (over 50%) by foot, bicycle and public transit.	Per cent mode share by foot, bike and transit	40% of trips (2008)	44% of trips	10%[1]	Yes	50% sustainable mode share
Target 2: Reduce average distance driven per resident by 20% from 2007 levels.	Total vehicle km driven per person	Not Available	Survey being developed	--	--	20% below 2007 levels
ZERO WASTE						
Target: Reduce total solid waste going to the landfill or incinerator by 50% from 2008 levels.	Annual solid waste disposed to landfill or incinerator from Vancouver	480,000 tonnes (2008)	428,400 tonnes (2011)	11%	Yes	240,000 tonnes
ACCESS TO NATURE						
Target 1: Ensure that every person lives within a five minute walk of a park, greenway or other green space by 2020.	Per cent of city's land base within a 5 min walk to a green space	92.6% (2010)	92.7%	0.1%	Yes	95% (5% of the city's land base is industrial land area, so is not considered part of the target)
Target 2: Plant 150,000 additional trees in the city between 2010 and 2020.	Total number of additional trees planted	(2010)	12,513 trees	--	Yes	150,000
LIGHTER FOOTPRINT						
Target: Reduce Vancouver's ecological footprint by 33% over 2006 levels.	Proxy: Number of people empowered[2] by a City-led or City-supported project to take personal action in support of a Greenest City goal and/or to reduce levels of consumption (cumulative)	600 people empowered to take action (2011)	1,780 people empowered to take action	190%	Yes	
CLEAN WATER						
Target 1: Meet or beat the most stringent of British Columbian, Canadian and appropriate international drinking water quality standards and guidelines.	Total number of instances of not meeting drinking water quality standards	0	0	0	Yes	0
Target 2: Reduce per capita water consumption by 33% from 2006 levels.	Total water consumption per capita	583 l /person/ day (2006)	491 l /person/ day	16%	Yes	390 l /person/ day
CLEAN AIR						
Target: Meet or beat the most stringent air quality guidelines from Metro Vancouver, British Columbia, Canada, and the World Health Organization.	Total number of instances of not meeting of air quality standards for ozone, particulate matter (PM 2.5), nitrogen dioxide and sulfur dioxide from both the Kits and Downtown stations combined[3]	27 (2008)	16	41%	Yes	0
LOCAL FOOD						
Target: Increase city wide and neighbourhood food assets by a minimum of 50% over 2010 levels.	Total Number of neighbourhood food assets[4] in Vancouver	3, 340 food assets (2010)	4,141 food assets	24%	Yes	5,158

[1] *There has been a 10 per cent change from the baseline of 40 per cent mode share by foot, bike and transit and a 4 per cent increase in mode share.*

[2] *For the purposes of this proxy, "people empowered to take action" is defined here to include those implementing a community project (through the Greenest City fund), taking action through active participation in a City led or City supported project (i.e. a carrot mob where the action is spending money to support a business' greening effort) or undertaking training to enable a personal lifestyle change (learning to preserve food or ride a bike). The definition excludes the number of people participating in a dialogue or consultation, attending an event, using infrastructure (i.e. bike lanes, food scraps collection), or receiving a personal incentive (such as for home retrofit).*

[3] *Air quality metrics are measured by Metro Vancouver from data from two monitoring stations in Vancouver, one in Kitsilano and one at Robson Square. Four indicators of air quality are used for comparison to world standards, they are: 24 hour average particulate matter (PM2.5) concentration >25 $\mu g/m_3$, one hour average nitrogen dioxide (NO_2) concentration >200 $\mu g/m_3$, 24hr average sulfur dioxide SO_2 concentration >20 $\mu g/m_3$, and eight hour ground-level ozone (O_3) concentration >52 ppb.*

[4] *Food assets include: number of community garden plots, farmers markets, community orchards, community composting facilities, community kitchens, community produce stands, and urban farms.*

AT A GLANCE

GOAL AND TARGETS	HIGHEST PRIORITY ACTIONS UNDERWAY 2011-2014	% COMPLETE AS OF JUNE 2013
GREEN ECONOMY		
Target 1: Double the number of green jobs over 2010 levels by 2020.	• Develop programs to support each of the five green job clusters that the City has identified as priorities.	25%
	• Establish a Green Enterprise Zone.	15%
Target 2: Double the number of companies that are actively engaged in greening their operations over 2011 levels, by 2020.	• Deliver a business engagement program that achieves measurable improvements in the environmental performance of Vancouver businesses.	10%
CLIMATE LEADERSHIP		
Target: Reduce community-based greenhouse gas emissions by 33% from 2007 levels.	• Work with partners in the city to build new neighbourhood-scale renewable energy systems.	45%
	• Work with partners to convert large-scale steam systems to renewable energy.	40%
	• Develop a policy framework outlining when the City will consider different renewable energy sources for district energy systems.	100%
GREEN BUILDINGS		
Target 1: Require all buildings constructed from 2020 onward to be carbon neutral in operations.	• Update Vancouver Building Bylaw to improve energy efficiency and reduce GHG emissions in new and existing buildings.	90%
Target 2: Reduce energy use and GHG emissions in existing buildings by 20% over 2007 levels.	• Develop and promote financing tools that enable energy efficiency retrofits.	75%
	• Use price signals in permit fees to reward energy efficiency and greenhouse gas reductions in new and existing buildings.	55%
GREEN TRANSPORTATION		
Target 1: Make the majority of trips (over 50%) by foot, bicycle and public transit.	• Complete a new *Active Transportation Master Plan* and update the *Transportation Plan* with direction from the GCAP.	75%
	• Improve pedestrian safety by developing and implementing a pedestrian safety study and action plan.	100%
Target 2: Reduce average distance driven per resident by 20% from 2007 levels.	• Work with partners to advocate for rapid transit for the Broadway Corridor.	50%
	• Pursue the development of a bike-share program in Vancouver's downtown and other high-potential cycling areas.	80%
ZERO WASTE		
Target: Reduce total solid waste going to the landfill or incinerator by 50% from 2008 levels.	• Collect all compostables from single-family homes and pilot food scraps collection in apartments and condominiums.	100%
	• Develop education and enforcement programs to keep recyclables out of the waste stream.	5%
	• Develop multi-family food scraps diversion strategy.	40%
	• Advocate for more Extended Producer Responsibility programs for packaging and more.	75%
	• Develop a program to encourage building deconstruction for renovation and demolition projects.	100%
ACCESS TO NATURE		
Target 1: Ensure that every person lives within a five minute walk of a park, greenway or other green space by 2020.	• Create four to six new mini-parks by converting street right-of-ways to parks.	10%
	• Increase access to nature in priority neighbourhoods by working acquire new parks or through streets-to-parks changes.	50%
Target 2: Plant 150,000 additional trees in the city between 2010 and 2020.	• Plant 15,000 new trees on City land and other public property.	75%
	• Green Hastings Park.	20%
LIGHTER FOOTPRINT		
Target: Reduce Vancouver's ecological footprint by 33% over 2006 levels.	• Provide resources to community organizations engaged in activities that support Greenest City targets: Greenest City Fund.	100%
	• Work with the Open Data Initiative to make Greenest City data available for use in innovative ways.	33%
	• Enable post-secondary students to work directly on projects that help achieve Greenest City goals, via the City Studio program.	100%
	• Implement a program to teach residents new skills related to Greenest City goals through Community Centres, such as courses on gardening and preserving food.	100%
CLEAN WATER		
Target 1: Meet or beat the most stringent of British Columbian, Canadian and appropriate international drinking water quality standards and guidelines.	• Create policy requiring water metering on all new 1 & 2 family homes, effective 2012.	100%
	• Expand lawn sprinkling enforcement efforts through dedicated patrol.	90%
	• Develop and implement enhanced water education, incentive and conservation programs.	60%
Target 2: Reduce per capita water consumption by 33% from 2006 levels.	• Continue to expand outdoor public access to drinking water.	75%
	• Eliminate combined sewer overflows from outfalls at Crowe and Burrard Streets.	90%
	• Develop *Integrated Rainwater Management Plans*.	5%
CLEAN AIR		
Target: Meet or beat the most stringent air quality guidelines from Metro Vancouver, British Columbia, Canada, and the World Health Organization.	• Encourage electric vehicle transport.	55%
	• Regulate uncontrolled wood burning appliances for residential buildings.	75%
	• Collaborate with Port Metro Vancouver, BC Hydro and Metro Vancouver on joint air quality issues.	20%
LOCAL FOOD		
Target: Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels.	• Develop a draft municipal food strategy to coordinate all aspects of the food system.	100%
	• Support urban agriculture by: creating 15 new community gardens, enabling three new urban farms, encouraging new farmers markets, adding public fruit trees, and supporting the development of a Vancouver Food Hub.	80%
	• Make local food available in City-run facilities through a local food procurement plan.	40%

1 GREEN ECONOMY

GOAL: SECURE VANCOUVER'S INTERNATIONAL REPUTATION AS A MECCA OF GREEN ENTERPRISE

TARGETS:

- Double the number of green jobs over 2010 levels by 2020.
- Double the number of companies that are actively engaged in greening their operations over 2011 levels by 2020.

INDICATOR	BASELINE	2013	% CHANGE
Total number of green jobs	14,900 jobs (2010)	New survey to be conducted late 2015	
Per cent of businesses engaged in greening their operations	7% of businesses engaged (2011)		

GROWING GREEN JOBS

The Vancouver Economic Commission (VEC) supports green businesses and the growth of green jobs in Vancouver. In 2012, VEC supported over 80 green companies with referrals, market development, introductions to investors, and help with regulatory issues to help grow their businesses.

VEC connects incoming businesses with Vancouver companies in order to attract investment into the city's economy. In 2012, VEC hosted 11 delegations and successfully attracted three green companies (from Britain, France, and the U.S.) to locate in Vancouver. Each is starting with a small office and has plans for future expansion.

SUPPORTING BUSINESSES TO GREEN OPERATIONS

The Strathcona Business Improvement Association received a grant from the Greenest City Fund in 2012 to develop a green hub in Vancouver's False Creek Flats area in collaboration with several other organisations. The hub will help businesses green their operations with respect to water conservation, energy conservation, greenhouse gas reduction, and local purchasing initiatives.

CREATING A RECYCLING HUB

A recently approved recycling hub will allow two related businesses to co-locate and leverage resources, creating more jobs and diversifying services. United We Can will be moving to a 21,000 sq. ft. warehouse at 455 Industrial Ave where a private firm, Recycling Alternative is already operating. United We Can currently employs 120 people with barriers to traditional employment, processes 60,000 drink containers a day and provides an income to about 700 recyclers.

CHALLENGES

Challenges for growing and supporting green businesses include a small amount of industrial land and a small market. While Vancouver has an extremely entrepreneurial mindset, the commercialization of innovative ideas is difficult in a small market with fewer buyers. Creating a hub to support these activities and developing the opportunities internationally for local businesses are important ways that the VEC and the City can support the local economy.

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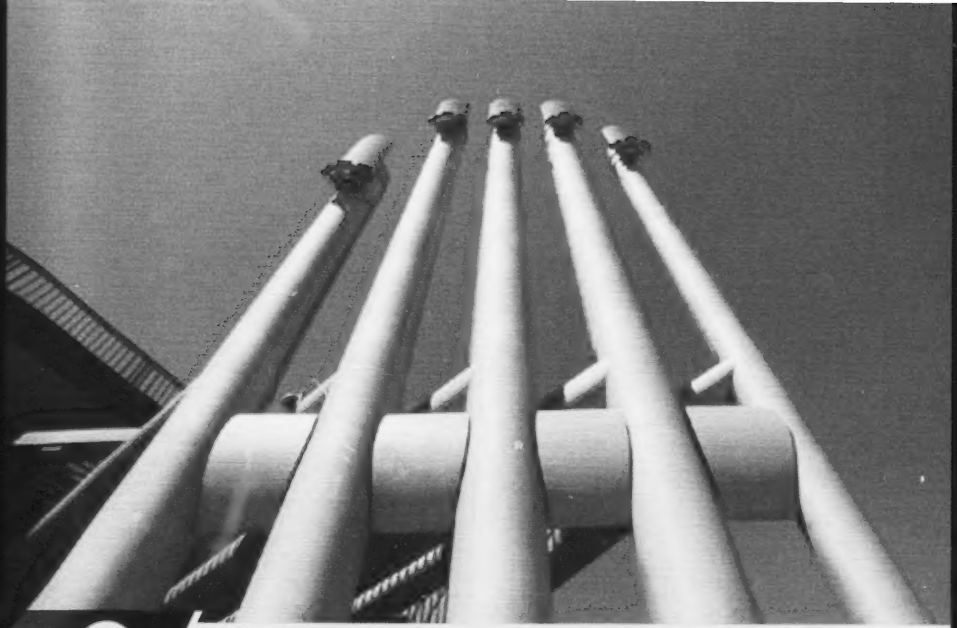


2 CLIMATE LEADERSHIP

GOAL: ELIMINATE DEPENDENCE ON FOSSIL FUELS

TARGETS:

- Reduce community-based greenhouse gas emissions by 33% from 2007 levels.

INDICATOR	BASELINE	2012	% CHANGE
Total tonnes of community CO_2e emissions from Vancouver	2,750,000 tCO_2e (2007)	2,657,000 tCO_2e	4%

tCO_2e = tonnes of carbon dioxide equivalent (GHGs)

EXPANDED LOW-CARBON NEIGHBOURHOOD ENERGY SYSTEMS

Vancouver's Neighbourhood Energy Strategy was adopted by Council in October 2012. It provides the road map for neighbourhood energy development in the city, including key guidelines for the development of neighbourhood energy supplies. Neighbourhood energy systems use low-carbon sources of energy, such as waste heat from the sewers, to heat and power homes while creating only a fraction of the carbon pollution produced by natural gas systems.

The City is currently working to identify utility partners for the development of two new neighbourhood energy systems—one for the downtown core and one along the Cambie corridor. The development of neighbourhood energy systems in Vancouver is targeted to reduce 120,000 tCO_2e by 2020.

IMPLEMENTING THE CLIMATE CHANGE ADAPTATION STRATEGY

The City of Vancouver's Climate Change Adaptation Strategy was unanimously approved by Council in July 2012. Implementation has started on priority action items, which include:

- Coastal Flood Risk Assessment
- Urban Forest Management Plan
- Integrated Stormwater Management Plan

Current planning initiatives related to the urban forest and stormwater will focus on enhancing the city's resilience to the changing climate, particularly the city's vulnerability to storms and increasing rainfall.

UPGRADED LANDFILL GAS CAPTURE SYSTEMS

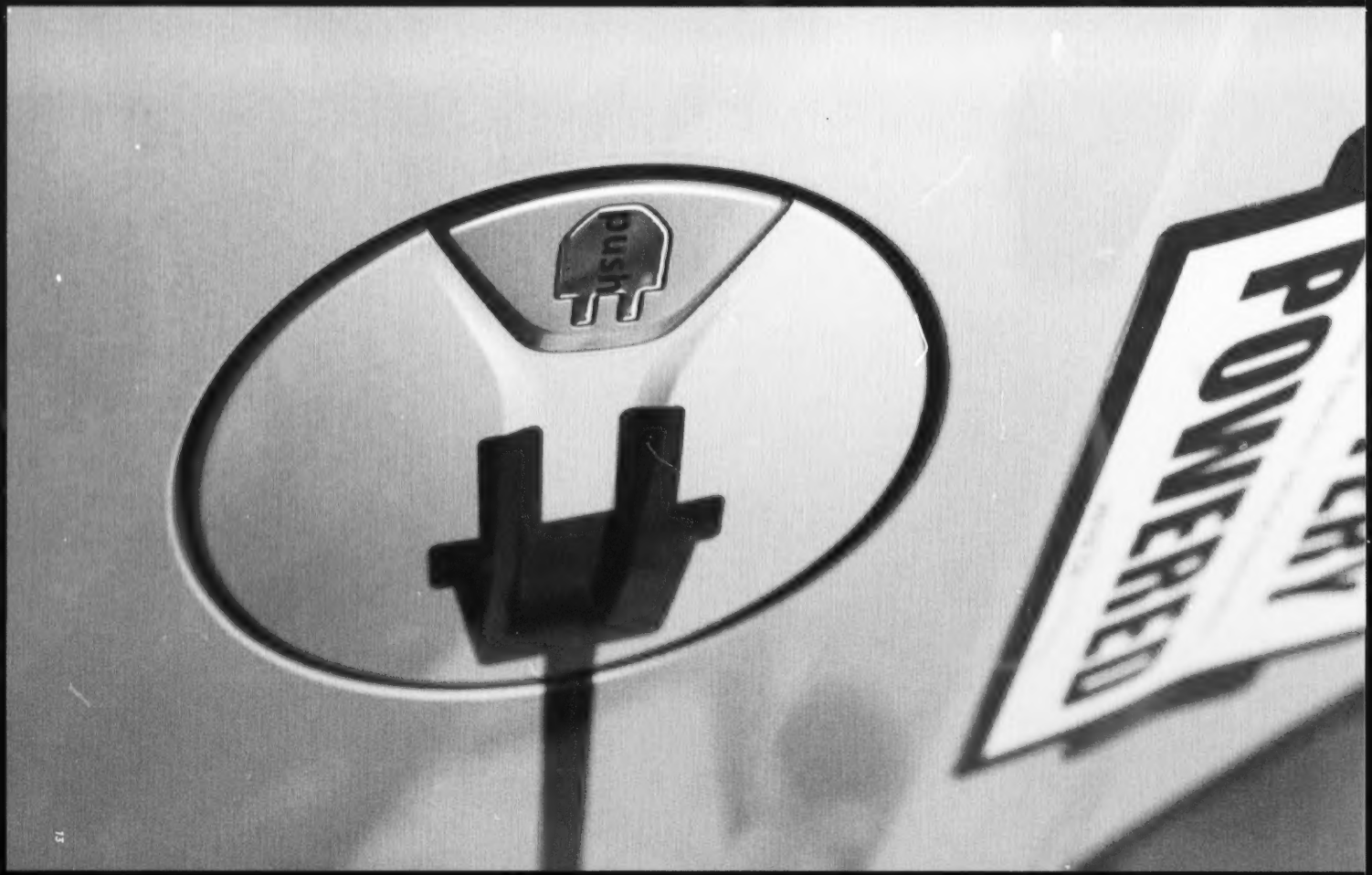
Methane, a by-product of landfill waste, is a greenhouse gas 21 times more potent than carbon dioxide. Upgrades to the gas collection infrastructure at the Vancouver Landfill have resulted in a significant increase in gas capture efficiency and greenhouse gas reduction. 354,500 tCO_2e were captured from the landfill in 2012. In 2012, the annual average gas capture rate was 53 per cent—well on the way to the target of 75 per cent average efficiency by 2016.

CHALLENGES

Vancouver's landfill is still in active use, and the settling waste can cause gas capture wells to fill with sediment, making gas capture rates highly variable. Monitoring the efficiency rates of gas capture and taking corrective action to ensure the infrastructure is working as intended are ongoing priorities.

The Province of B.C. plays a significant role in enabling effective climate action. It is imperative that provincial policy be clear and enduring so that projects and programs can offer their full benefit. The carbon tax has significant impact on public finances and project development.

In addition, the actions taken in the Green Building, Green Transportation and Zero Waste goal areas also contribute to the reductions that need to be achieved. The challenges in those goal areas are also challenges for this target.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3 GREEN BUILDINGS

GOAL: LEAD THE WORLD IN GREEN BUILDING DESIGN AND CONSTRUCTION

TARGETS:

- Require all buildings constructed from 2020 onward to be carbon neutral in operations.
- Reduce energy use and greenhouse gas emissions in existing buildings by 20% over 2007 levels.

INDICATOR	BASELINE	2012	% CHANGE
Total tonnes of CO_2e	1,145,000 tCO_2e (2007)	1,115,000 tCO_2e	-5%

tCO_2e = tonnes of carbon dioxide equivalent (GHGs)

UPDATING THE VANCOUVER BUILDING CODE

The Vancouver Building Bylaw update will propose cost-effective standards that will ensure new homes built in Vancouver are 50 per cent more energy efficient than the 2012 B.C. Building Code.

The recommended updates include three strategies to reduce energy use and increase comfort in new and existing buildings:

(a) The Green Homes Program for 1 & 2 Family homes will require additional insulation in the walls and attic, and better performing windows so that new homes in Vancouver will use 50 per cent less energy than a home built to the 2012 provincial code.

(b) All large multi-unit residential and commercial buildings will have an updated building code that will reduce their energy use, on average, by 15 per cent.

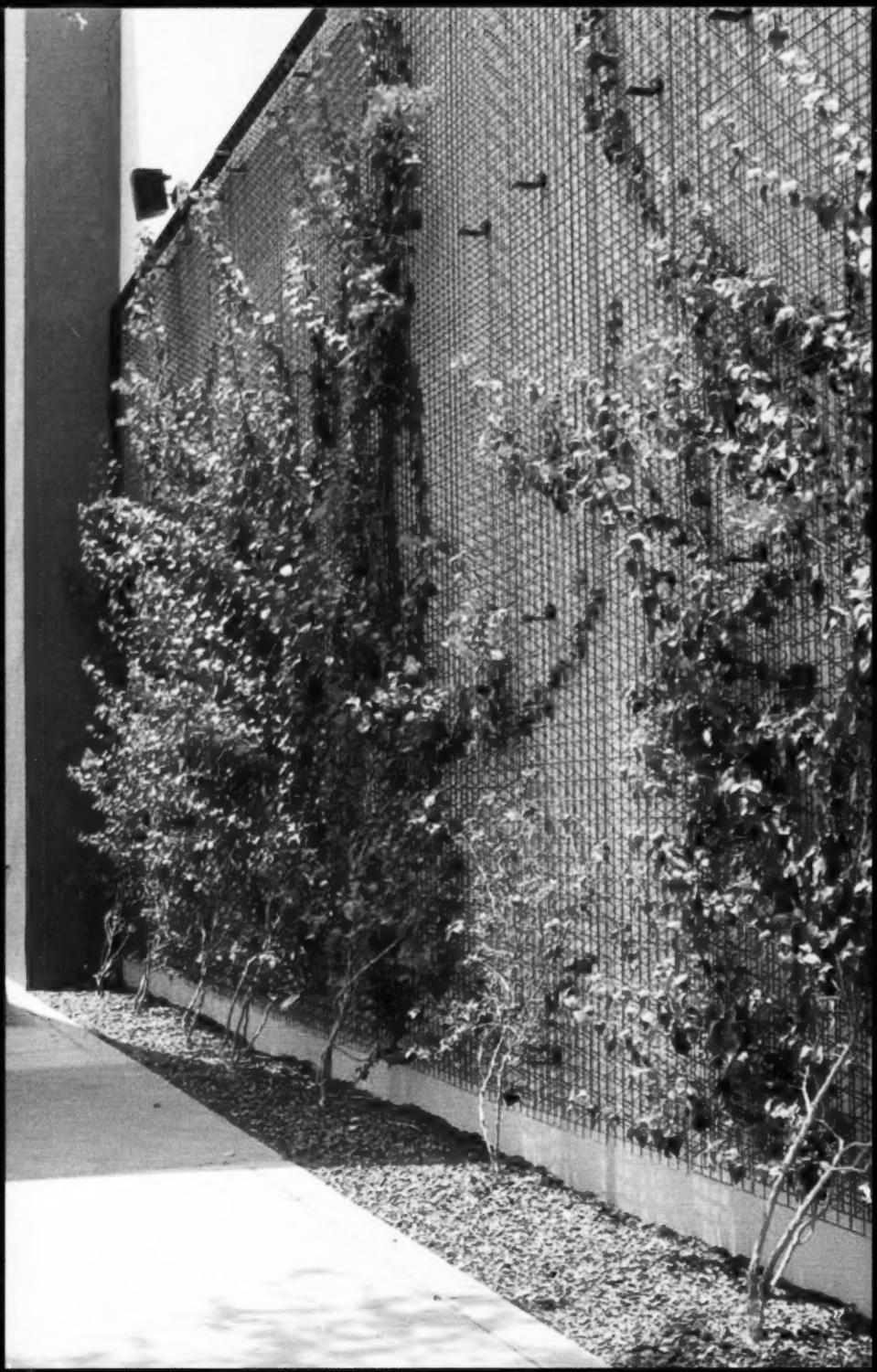
(c) For the first time in the building code, homes and businesses requiring a permit for renovations will be required to obtain an energy assessment and, in some cases, undertake some low cost updates at the time of renovation.

These updates will add less than 1 per cent to construction costs yet take a big step toward the 2020 goal of low-carbon new construction.

CHALLENGES

The Home Energy Loan Program pilot was developed to help residents access energy upgrades for their homes in an economical way. However, it is difficult to entice people to retrofit their homes when energy is cheap and cost savings from retrofits are low. Natural gas prices fell by 50 per cent between 2007 and 2012. Despite this market environment, there are still many cost-effective actions homeowners and businesses can take to improve energy efficiency.

Staff are currently working on a comprehensive building retrofit strategy that will introduce tools and resources to encourage home energy upgrades. The building retrofit strategy will leverage existing programs and create a coordinated and comprehensive approach for encouraging energy upgrades for both residential and commercial buildings.



4 GREEN TRANSPORTATION

GOAL: MAKE WALKING, CYCLING, AND PUBLIC TRANSIT PREFERRED TRANSPORTATION OPTIONS

TARGETS:

- Make the majority (over 50%) of trips by foot, bicycle, and public transit.
- Reduce average distance driven per resident by 20% from 2007 levels.

INDICATOR	BASELINE	2012	% CHANGE
Per cent mode share by foot, bike and transit	40% of trips	44% of trips	10%[1]
Total vehicle km driven per person	Not available	Survey being developed	—

[1] *There has been a 10 per cent change from the baseline of 40 per cent mode share by foot, bike and transit, which is a 4 per cent increase in mode share.*

Vancouver has over 255 km of bike network and 2,066 km of public transportation network.

2012-2013 SUCCESSES:

ADOPTED TRANSPORTATION 2040 PLAN

The *Transportation 2040 Plan* was adopted by Council in October 2012. The plan covers all transportation modes and supports a growing economy and healthy citizens in a safe, accessible, and vibrant city. The plan affirms the GCAP Green Transportation targets for 2020 and sets a 2040 target: at least two-thirds of all trips in the city will be on foot, bike, or transit. Achieving these targets will make walking and cycling safer, and expanded transit capacity will accommodate a growing city.

COMPLETED PHASE ONE OF THE COMOX-HELMCKEN GREENWAY

The Comox-Helmcken Greenway is an important east-west connection from Stanley Park to False Creek. It complements the existing seawall and protected bike network, helping people of all ages and abilities safely and conveniently get to where they need to go, on foot and by bike. This enhanced pedestrian and cyclist corridor will connect parks, schools, and other priority destinations, and will also provide places to socialize and enjoy the city's outdoor spaces. The first phase of this project was completed in June 2013.

DEVELOPING THE VANCOUVER BIKE SHARE PROGRAM

The City continues to work with its preferred vendor, Alta Bicycle Share, on developing a public bicycle sharing program. Unique to Vancouver, the program will include a helmet dispensing and return system. The public Bike Share Program will provide another green transportation option for residents and visitors in a core area of the city.

There has been a 30% increase in car-sharing vehicles within Modo, Zipcar, and Car2Go fleets since 2008.

CHALLENGES

Funding remains a key challenge to increasing the mode share of public transportation. Vancouver's elected officials continue to work with TransLink to address the gap between Vancouver's supply of public transportation and its ever-increasing demand. Identifying a solution to meet the needs of the Broadway corridor remains a priority for the City and Translink.

Getting the support for projects and land use decisions that can enable a sustainable mode share shift can also be challenging. Many stakeholder opinions need to be considered and often there are conflicting views on how improvements can be made.

5 ZERO WASTE

GOAL: CREATE ZERO WASTE

TARGETS:

- Reduce solid waste going to the landfill or incinerator by 50% from 2008 levels.

INDICATOR	BASELINE	2011	% CHANGE
Annual solid waste disposed to landfill or incinerator from Vancouver	480,000 tonnes (2008)	428,400 tonnes	11%

In spring 2013, weekly food scraps pickup started for all houses and duplexes.

2012-2013 SUCCESSES:

EXPANDED FOOD SCRAPS COMPOSTING

In April 2010, the City started the first phase of a food scraps composting collection program by allowing houses and duplexes to add fruit and vegetable scraps to their Green Bins. In September 2012, the program was expanded to include all food scraps such as meat, baked goods, dairy products, and food soiled paper.

Starting in May, 2013, the garbage and organics collection schedules across the city were shifted to weekly Green Bin collection and bi-weekly garbage collection to further increase organic waste diversion. Early indications are that those areas that have been on the program for at least a month have reduced the garbage by 37 per cent and increased compostables diverted by 60 per cent. About 25,000 tonnes of organic waste is expected to be diverted away from the landfill each year, reducing greenhouse gas emissions by 3,000 tonnes per year.

DIVERTING MULTI-UNIT RESIDENTIAL BUILDING AND COMMERCIAL OPERATION FOOD SCRAPS

Staff are currently working on strategies to divert food scraps from multi-unit buildings and commercial operations. Vancouver has more than 5,000 multi-unit buildings with 160,000 units of various sizes and densities, which makes it challenging to develop a program that fits everyone's needs. Garbage and yard trimmings are managed differently from building to building by private haulers and landscapers, and many buildings have insufficient space for additional containers. Implementing new systems and programs for the multi-unit and commercial sectors is a challenge, but these will be in place

Approximately 58% of waste is diverted from the landfill.

before Metro Vancouver bans disposal of compostable organics in 2015.

EXPANDED EXTENDED PRODUCER RESPONSIBILITY PROGRAM

The City continues to work with the Province to develop new Extended Producer Responsibility (EPR) programs for packaging and paper, among other products. EPR programs make the producers of consumables responsible for the collection of these goods at end of life. The biggest development over the past year is that, as of October 2012, residents and businesses can recycle electronics including: TVs; computer equipment; small appliances; power tools; electric toys; lawnmowers; cell phones; and more. EPR programs also exist for hazardous waste, pharmaceuticals, beverage containers, tires and more.

CHALLENGES

The most pressing challenges with the existing EPR programs are that many residents are not aware of them or don't know where they can recycle items covered by EPR programs. The City is working with the Province and the agencies that run these programs to make it easier for residents to recycle items such as electronics, large appliances, tires, and hazardous wastes.

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6 ACCESS TO NATURE

GOAL: VANCOUVER RESIDENTS ENJOY INCOMPARABLE ACCESS TO GREEN SPACES, INCLUDING THE WORLD'S MOST SPECTACULAR URBAN FOREST

TARGETS:

- All Vancouver residents live within a five-minute walk of a park, greenway, or other green space by 2020.
- Plant 150,000 new trees by 2020.

INDICATOR	BASELINE	2012	% CHANGE
Per cent of city's land base within a 5 minute walk to a green space	92.6% (2010)	92.7%	0.1%
Total number of additional trees planted	(2010)	12,515 trees	—

In November 2012, salmon returned to Still Creek for the first time in decades. This is the product of ten years of habitat restoration and enhancement work on one of only two remaining visible streams in urban Vancouver.

2012-2013 SUCCESSES:

CREATED TWO MINI-PARKS

Two new mini-parks were created, one at Main and 18th, and the other at Adanac and Commercial. Together, these mini-parks and a new park acquisition at Yukon and 17th will add 1.42 hectares of green space to our city.

PLANTED 12,500 TREES

Over 12,500 trees have been planted in the city since 2010, including 6,000 in 2012 alone. Planning for the fall planting season is underway.

LAUNCHED TREEKEEPERS PROGRAM

TreeKeepers is a program that encourages and supports people planting trees at their homes and businesses, in collaboration with Tree City, the Environmental Youth Alliance and the City of Vancouver. Five hundred trees were distributed this spring in six pilot neighbourhoods. In addition, the Citizen Forester training program launched in April, teaching adults and children how to care for trees.

DEVELOPING AN URBAN FOREST STRATEGY

The Parks Board is leading the development of an Urban Forest Strategy to ensure that Vancouver has a healthy urban forest. The strategy will identify opportunities to make progress with stormwater management, climate change adaptation, and biodiversity. Increasing not only the number of trees but also the area of canopy cover is an important part of the strategy. Staff and consultants are updating policies, standards and best practices for trees on public and private land to incorporate knowledge on species, soil management, growth, and maintenance. The Urban Forest Strategy is expected to be completed in the fall of 2013.

All of the city's three golf courses are Audubon certified, which recognizes commitment to environmental quality by meeting standards for protecting the environment, conserving natural resources, and providing wildlife habitat.

RESTORED JERICHO PARK SHORELINE

The completed shoreline restoration project in Jericho Park includes both a new beach and a variety of shoreline habitats that replaced the old Jericho Wharf. The project incorporates new gravel for surf smelt spawning, new trees, perch sites for owls and other birds, and beach grass meadows.

CHALLENGES

While the current Access to Nature targets serve to increase the quantity of green space in the city, there is currently no target that addresses the quality of green space. Providing biodiverse habitat is an important aspiration as it increases the quality of Vancouver's urban experience and has documented health benefits. City staff are currently working with local environmental groups to develop a proposed biodiversity target for inclusion in this plan.

7 LIGHTER FOOTPRINT

GOAL: ACHIEVE A ONE-PLANET ECOLOGICAL FOOTPRINT

TARGETS:

- Reduce Vancouver's ecological footprint by 33% over 2006 levels.

INDICATOR	BASELINE	2012	% CHANGE
Proxy: Number of people empowered[2] by a City led or City supported project to take personal action in support of a Greenest City goal and/or to reduce levels of consumption (cumulative)	600 people empowered to take action (2011)	1,700 people empowered to take action	190%

2 For the purposes of this proxy, "people empowered to take action" is defined here to include those implementing a community project (through the Greenest City fund), taking action through active participation in a City led or City supported project (i.e. a carrot mob where the action is spending money to support a business' greening effort) or undertaking training to enable a

The targets of the *Greenest City 2020 Action Plan* will only be met by empowering the community to take action. The Lighter Footprint goal is focused on enabling and empowering residents to take personal action to change behaviours and reduce consumption.

2012-2013 SUCCESSES:

IMPLEMENTED THE GREENEST CITY FUND

In early 2012, the City partnered with the Vancouver Foundation to launch a $2 million fund to support residents in taking action on the goals in the *Greenest City 2020 Action Plan*. Over $530,000 was distributed in 2012 to support 150 projects. Examples include:

- **Immigrant Services Society of BC (ISSBC) and the UBC Bike Co-op**
  A cycling training program for new immigrants that helps participants create community connections and empowers them to get around the city safely on a bicycle.
- **Fresh Roots Urban Farm Society and School District No. 39**
  Schoolyard market gardens at Vancouver Technical and David Thompson secondary schools serve as outdoor classrooms for students and teachers. Harvested produce provides healthy, nutritious cafeteria lunches for students.

LAUNCHED THE GREENEST CITY CURRICULUM

Vancouver's community centres are a logical place to engage residents in activities that support the greening of their city. In 2012, the Vancouver Park Board launched the Greenest City Curriculum—a selection of course offerings designed to engage and educate residents to take action. Over the summer and fall of 2012, 700 residents participated in programs such as bicycle maintenance and safety, gardening, preserving food, and more at community centres across the city.

Over 500 of Greenest City grant recipients.

personal lifestyle change (learning to preserve food or ride a bike). The definition excludes the number of people participating in a dialogue or consultation, attending an event, using infrastructure (i.e. bike lanes, food scraps collection), or receiving a personal incentive (such as for home retrofit).

SUPPORTED CITY STUDIO PROJECTS

Over the past two years City Studio has involved 72 students in the core program, 1,154 students in partner courses, and contributed over 40,000 hours of research and action in support of Greenest City goals. From projects such as public pianos for Vancouver, to improved signage for cycling and way-finding, City Studio is a unique project and collaboration of six different post-secondary institutions across multiple disciplines. The project was founded and is co-directed by Duane Elverum (Emily Carr University) and Dr. Janet Moore (SFU Centre for Dialogue). City Studio is an engine for innovation that empowers students to take action on the Greenest City goals.

CHALLENGES

Individual choices about what you eat, what you consume, and how you travel, shape your individual ecological footprints. Measuring change in the ecological footprint of Vancouver residents is challenging since much of the data needed to calculate this metric is only available at the regional or provincial level. Measuring the number of people empowered to take action is an alternative that supports the personal effort that must be taken by Vancouver residents to reach this target.

While the City can support lighter footprint choices through the development of green infrastructure, achieving an overall reduction in Vancouver's ecological footprint remains largely outside of the City's control. Despite this, the City is working hard to influence change in this area by educating and enabling residents to make positive choices.

Over 484 Greenest City related courses offered at community centers in 2012.

8 CLEAN WATER

GOAL: VANCOUVER WILL HAVE THE BEST DRINKING WATER OF ANY CITY IN THE WORLD

TARGETS:

- Meet or beat the strongest of British Columbian, Canadian and appropriate international drinking water quality standards and guidelines.
- Reduce per capita water consumption by 33% from 2006 levels.

INDICATOR	BASELINE	2012	% CHANGE
Total number of instances of not meeting drinking water quality standards	0	0	0
Total water consumption per capita	585 L/person/day (2006)	491 L/person/day	16%

Vancouver has 242 public drinking water fountains.

2012-2013 SUCCESSES:

EXPANDED WATER CONSERVATION EDUCATION AND ENFORCEMENT

Total water consumption in the city has decreased by 16 per cent per capita per day, thanks to seasonal water utility rates, enforcement of lawn sprinkling regulations, and neighbourhood programs such as the Greenest City Garden Workshops.

INCREASED PUBLIC ACCESS TO DRINKING WATER

Seven new water access points (five fountains and two bottle-filling stations) were installed over the past year. There are now over 242 public drinking water fountains and water bottle-filling stations throughout the city. Additional temporary drinking fountains are added during hot summer months.

DEVELOPING A CITY-WIDE COMPREHENSIVE STORMWATER MANAGEMENT PLAN

A city-wide integrated stormwater management plan following a whole-systems approach that embraces the ecological principles of rainwater and stormwater management is being developed. The plan will provide a toolbox of stormwater management techniques categorized by the appropriate land use, neighbourhood location, or project type where they are most relevant.

CHALLENGES

Water conservation is not usually top of mind for Vancouverites since they live in a rainy region. However, about 90 per cent of precipitation received during the winter overflows the reservoirs. Encouraging conservation behaviour is also a challenge when many residents pay a flat rate for water instead of paying for the amount of water they consume. With the demands of a growing population, the limited capacity to store rainwater, and the drier summers expected in the region as the climate changes, conserving water is an important action to take.

9 CLEAN AIR

GOAL: BREATHE THE CLEANEST AIR OF ANY MAJOR CITY IN THE WORLD

TARGETS:

- Meet or beat the most stringent air quality guidelines from Metro Vancouver, British Columbia, Canada, and the World Health Organization.

INDICATOR	BASELINE	2012	% CHANGE
Total # of instances of not meeting of air quality standards for ozone, particulate matter (PM 2.5), nitrogen dioxide and sulfur dioxide from both the Kits and Downtown stations combined[1]	27 (2008)	16	41%

Air quality metrics are measured by Metro Vancouver from data from two monitoring stations in Vancouver, one in Kitsilano and one at Robson Square. Four indicators of air quality are used for comparison to world standards, they are: 24 hour average particulate matter ($PM_{2.5}$) concentration >25 ug/m³, one hour average nitrogen dioxide (NO_2) concentration >200 ug/m³, 24 hour average sulfur dioxide (SO_2) concentration >20 ug/m³, and eight hour ground-level ozone (O_3) concentration >52 ppb.

Vancouver has about 40 public electric vehicle charging stations. About 40 more are on the way by the end of 2013.

2012-2013 SUCCESSES:

EXPANDED ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

The City has installed 40 electric vehicle charging stations and is working to install 40 more at both City-owned facilities and those owned by private partners. One of these projects is a partnership with Telus to install three new monopoles along Beach Avenue that integrate cellular improvements and electric vehicle charging. Expanding electric vehicle infrastructure supports the growth of a cleaner, more sustainable transportation option. All new developments are required to provide charging stations for electric vehicles. The City has a total of 17 electric vehicles in its fleet, including two in the car-share pool, and plans to expand this number. The City has the biggest municipal fleet of electric vehicles in Canada.

CONDUCTING ROADSIDE AIR QUALITY MONITORING

Starting this summer, Environment Canada, Metro Vancouver, the City of Vancouver, and researchers at UBC will be monitoring one roadside location and one control location over the course of a year to better understand the levels of air pollution and impacts of transportation along a busy urban corridor.

CHALLENGES

Expanding electric vehicle charging infrastructure to support cleaner air is a challenge. There is often a lack of available electricity supply near public parking stalls that would otherwise be ideal locations for charging stations, increasing the time and expense involved in preparing new sites.

The Provincial Air Care Program provides an effective way to manage pollutants from light duty cars and trucks and is an excellent source of data to enable effective planning and policy development. The Provincial Government's reductions in Air Care requirements will make this planning and progress tracking more difficult.

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10 LOCAL FOOD

GOAL: VANCOUVER WILL BECOME A GLOBAL LEADER IN URBAN FOOD SYSTEMS

TARGETS:

- Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels.

INDICATOR	BASELINE	2012	% CHANGE
Total Number of neighbourhood food assets[4] in Vancouver	3,340 food assets (2010)	4,141 food assets	24%

[4] Food assets include: number of community garden plots, farmers markets, community orchards, community composting facilities, community kitchens, community produce stands, and urban farms.

Since 2011, 675 new community garden plots have been added — an 18% increase.

2012-2013 SUCCESSES:

DEVELOPED VANCOUVER'S FOOD STRATEGY

Vancouver's Food Strategy, adopted by Council in 2013, is the result of a year of public consultation and partnership work with the community. The Vancouver Food Strategy integrates the full spectrum of urban food system issues within a single policy framework. It builds on years of food system initiatives and grassroots community development, considering all aspects of the food system—from seed to table, compost heap, and soil. The Food Strategy helps us fully address Vancouver's food challenges and align food system goals within broader City plans and processes. The Vancouver Food Strategy expresses how the City will influence the shape of the local food system in the future.

LAUNCHED UPDATED FARMERS' MARKET POLICY

Council recently adopted policy and bylaw amendments to better enable farmers' markets in the city, including changes to allow multi-year permits for vendors and streamlining the application process.

EXPANDING ACCESS TO LOCAL FOOD IN CIVIC FACILITIES

Staff are working to develop a baseline, pilot projects, and an action plan for increasing local and sustainable food purchased by the City's facilities. Local food will be piloted later in July at City concession services.

There are a total of 16 community orchards. Nine new community orchards were planted in 2012.

CHALLENGES

Vancouver's food system extends well beyond its boundaries so it is important that partnerships are strengthened and community groups work together to ensure that a greater proportion of the food available to Vancouverites is healthy, organic, and local.

The City has 8.28 acres of urban farm land in production.

Liberty Apple
Most disease resistant apple ever found. Vigorous producer that stores well. Great for fresh eating or cooking.

CITY OPERATIO GO GREEN

CITY OPERATIONS GO GREEN

Demonstrating leadership in greening internal operations is an important part of the City's commitment in the *Greenest City 2020 Action Plan*. From using innovative new technologies to reduce vehicle fleet travel or fleet emissions, to reusing and recycling where possible, the City continues to work towards reducing carbon pollution from its own operations.

2012-2013 SUCCESSES:

ACHIEVING CARBON NEUTRALITY

The City's operations are on track to be carbon neutral by August 2013. Vancouver is one of the first major cities in Canada to achieve this. Carbon neutrality means that any carbon pollution created from the City's direct operations is offset through investment in projects that are reducing emissions elsewhere. By using offsets created through GHG reductions from the landfill, the City is able to neutralize emissions from its direct operations without additional burden to taxpayers.

DNS

INCREASED USE OF RECYCLED MATERIALS IN ASPHALT MIX

The City became the first-ever city to use recycled plastic bags and bottles in its asphalt mix. This innovative technology makes up approximately one percent of the asphalt mix. Using recycled plastic in asphalt also allows the City's asphalt plant to reduce its fuel use by 20 per cent, a significant savings in fuel costs and greenhouse gas emissions.

INCREASED USE OF RECYCLED MATERIALS IN CIVIC INFRASTRUCTURE

The City continues to be a leader in green initiatives, such as recycling asphalt and concrete slabs into aggregate, and crushing old toilets at the landfill for recycled aggregate.

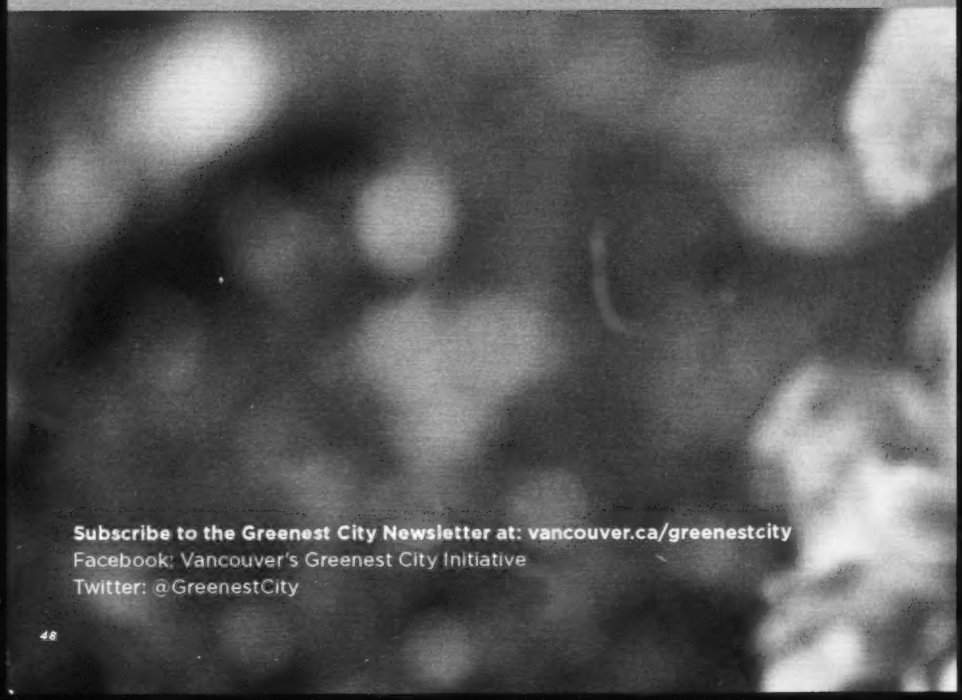
LAUNCHED CIVIC ZERO WASTE PROGRAM

The City's corporate waste diversion program was piloted in 2012 and is currently being expanded to additional civic facilities, including community centers, libraries, and City Hall. This program includes five streams for waste diversion: paper, mixed plastics, soft plastics, organics, and garbage. So far, the program has achieved an average diversion rate of 65 per cent.

JOIN IN!

The development of the *Greenest City 2020 Action Plan* and the implementation of its initiatives are the result of an enormous collaborative effort by residents, businesses, community groups, and the City. The City of Vancouver thanks everyone who has contributed their ideas, time, expertise, and, most importantly, their passion for Vancouver.

There's been strong progress to date and there is still much more to do. Every Vancouverite has a role to play in helping to build the greenest city—a city that will meet its green targets while building a strong local economy and supporting vibrant and inclusive neighbourhoods. Implementing Vancouver's *Greenest City 2020 Action Plan* will allow everyone to thrive - both today and for generations to come.



Subscribe to the Greenest City Newsletter at: vancouver.ca/greenestcity
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ACKNOWLEDGEMENTS

Thank you to all staff and members of the community for their hard work and contributing their stories.

CITY OF VANCOUVER | GREENEST CITY 2020

For More Information:

Visit: vancouver.ca

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Outside Vancouver: 604-873-7000

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